Data Support Tools Thread

Assessment

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Rev: Basic

Data Support Tools Thread
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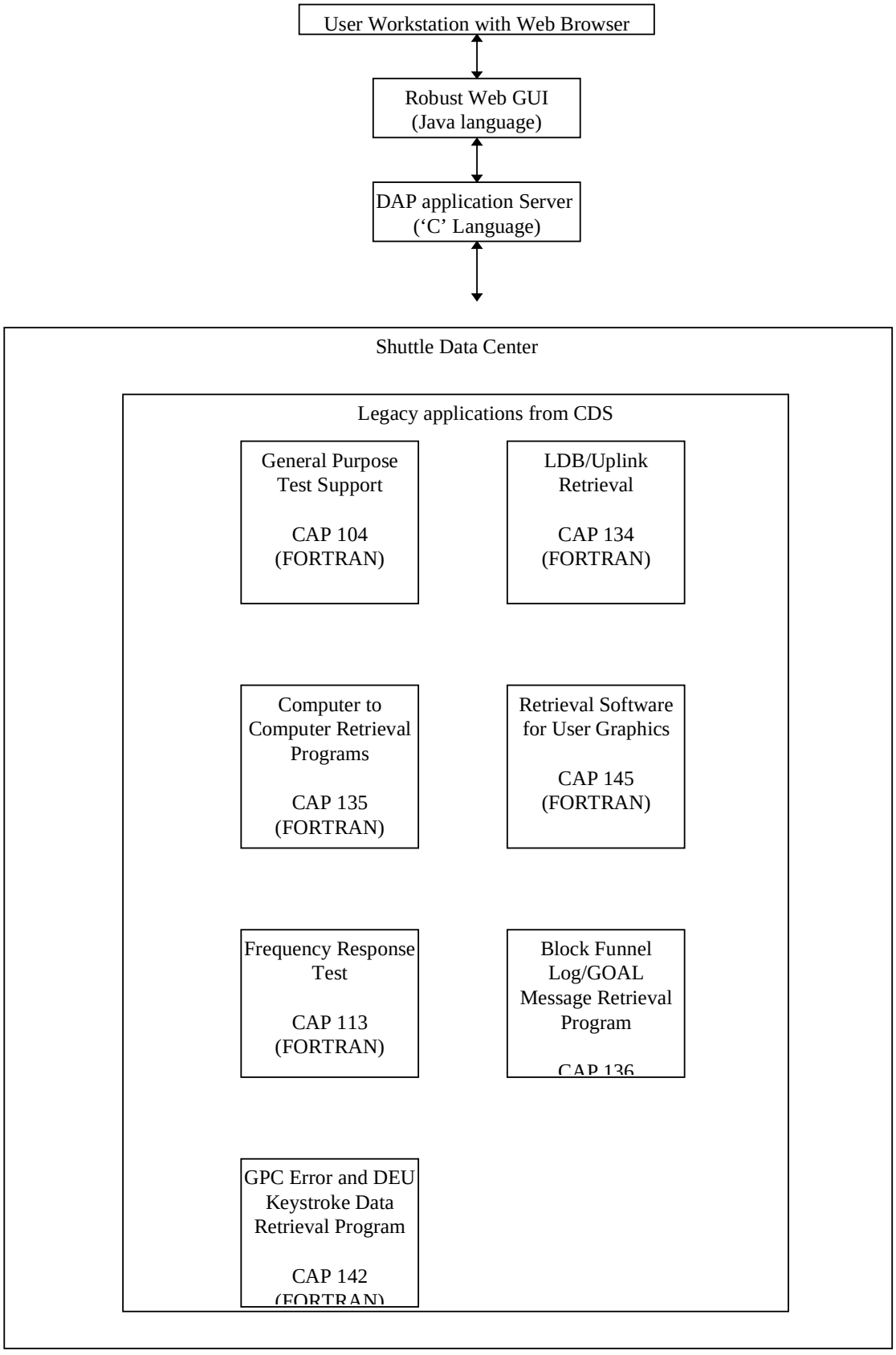
1. Introduction

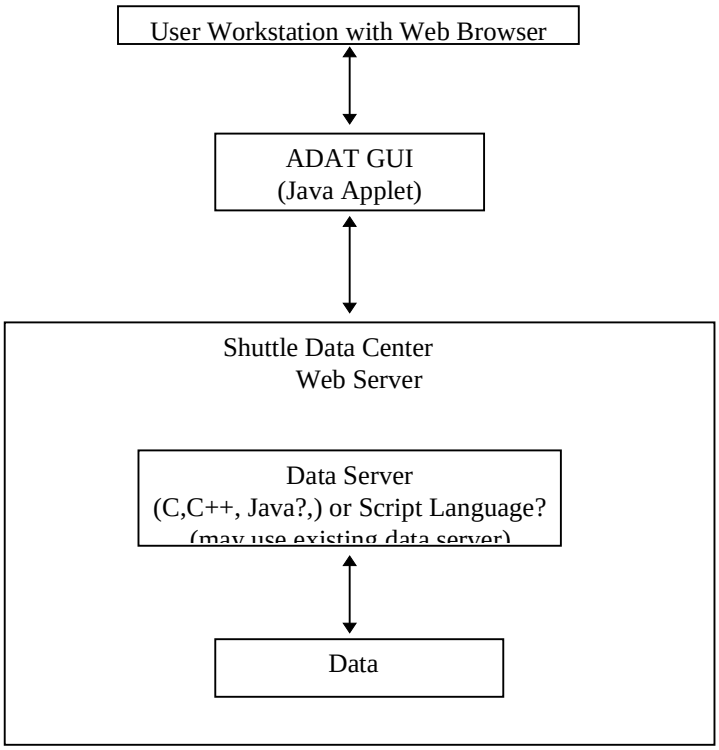
1.1 Data Support Tools Thread Overview.

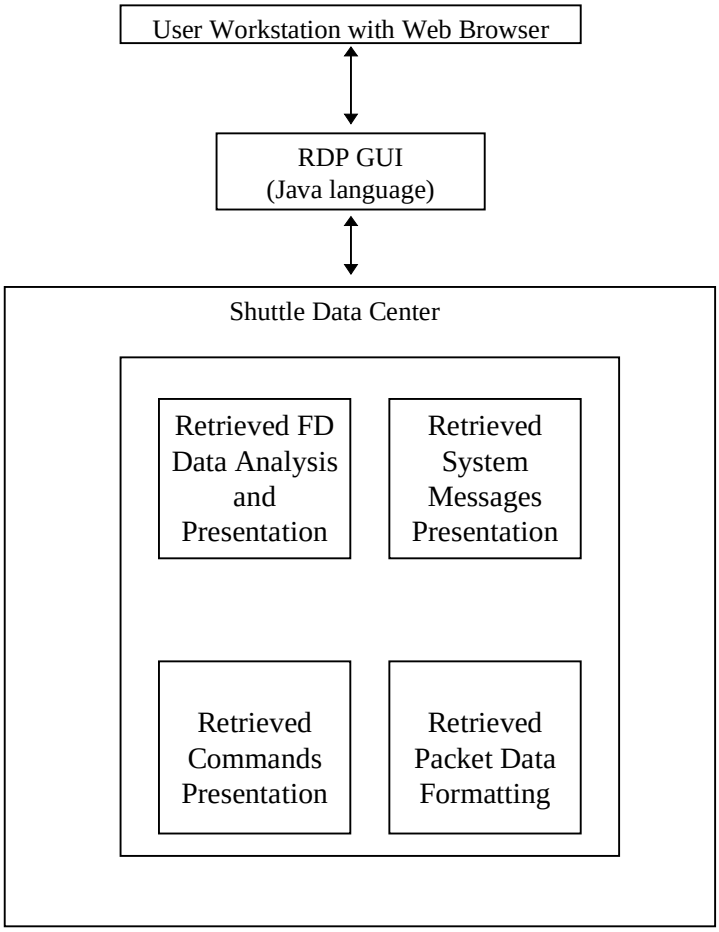
This thread supports historical data retrieval and analysis similar to but improved upon what would be found on the CDS HI-TRAX system today. A Robust CAP Program Web Interface as well as the second phase of the Advanced Data Analysis Tool, (ADAT), will be featured in Atlas. The Phase II CLCS Retrieved Data Presentation (RDP) will be delivered.

1.2 Data Support Tools Thread Concept

The Data Support tools thread will provide three data analysis and presentation products that fill different pieces to the engineering data review tool puzzle. These three tools are the Robust CAP Web Interface (RCWI), the Advanced Data Analysis Tool (ADAT) and the Retrieved Data Presentation (RDP). They all reside on the SDC and are accessible from the CLCS Support Workstation, the office workstation and other NASA centers. These three products are being deployed in Thor with continuation of their functional buildup to take place in Atlas. They are written in JAVA so as to be platform independent and to take advantage of the KSC intranet and the engineering community's familiarity with web browsers.


User Workstation with Web Browser
Robust Web GUI
(Java language)
DAP application Server
('C' Language)
Shuttle Data Center
Legacy applications from CDS
General Purpose Test Support
CAP 104
(FORTRAN)
LDB/Uplink Retrieval
CAP 134
(FORTRAN)
Computer to Computer Retrieval Programs
CAP 135
(FORTRAN)
Retrieval Software for User Graphics
CAP 145
(FORTRAN)
Frequency Response Test
CAP 113
(FORTRAN)
Block Funnel Log/GOAL Message Retrieval Program
CAP 136
GPC Error and DEU Keystroke Data Retrieval Program
CAP 142
(FORTRAN)


User Workstation with Web Browser
ADAT GUI
(Java Applet)
Shuttle Data Center
Web Server
Data Server
(C,C++, Java?,) or Script Language?
(may use existing data server)
Data


User Workstation with Web Browser
RDP GUI
(Java language)
Shuttle Data Center
Retrieved FD Data Analysis and Presentation
Retrieved System Messages Presentation
Retrieved Commands Presentation
Retrieved Packet Data Formatting

1.3 Data Support Tools Thread Specification

1.3.1 Statement of Work

- Continuation of Robust CAP Program Web Interface
    - Provide Additional CAP GUI for CAP 113
    - Provide servlet to enable closing of holes in firewall
    - Provide Enhancements to Existing GUIs
- Advanced Data Analysis Tool, (ADAT) Phase II
    - Provide capability to save users data to a workstation
    - Provide support for other table view formats
    - Provide access to online data status (DSTAT)
- Phase II CLCS Retrieved Data Presentation (RDP)
    - Develop additional retrievals
        - Develop a retrieval that combines the Console Activity Trace retrieval and the Operator Communications Retrieval
        - Develop a retrieval to support LDB/UPLK command data reporting
    - Enhancements to existing retrievals
        - Output in health column
        - FD's requested as a group
        - FD's selectable by type and source
        - Output to a data file

Note: Raw, C-C, Log, FD Retrievals from RDP required for HMF operational date.

1.3.2 SLS Requirements

2.2.10.2.2 The CLCS shall provide the capability to display and plot data retrieved from the SDC.
2.4.7.2 The SDC shall provide the capability to retrieve recorded Measurement FD data in raw and formatted formats, including interpreted ASCII data, where applicable.
2.4.7.3 The SDC shall provide a set of programs to retrieve each different kind of data sent from a RTPS set in raw and formatted formats, including interpreted ASCII data, where applicable.
2.4.7.4 The SDC shall provide the capability to retrieve LDB and GSE data in raw and formatted formats.
2.4.7.5 The SDC shall provide the capability to retrieve, correlate, index, analyze, and format processed data.
2.4.7.6 The SDC shall provide a set of programs to aid in data reduction and analysis.
2.4.8.7 The existing archive of Shuttle data shall be incorporated into the SDC.

1.4 Data Support Tools Thread Hardware Diagram

Not Applicable

1.5 Data Support Tools Thread Deliverables

Software:

Deliverable	R&D Document	Code	API Manual	Users Guide
Robust CAP Web Interface	Yes	est. in work	No	Online
Advanced Data Analysis Tool	Yes	12,000 LOC	No	Online

Deliverable	R&D Document	Code	API Manual	Users Guide
Retrieved Data Presentation	Yes	15,000 LOC	No	Online

1.6 Data Support Tools Thread Assessment Summary

This section contains the summary of the costs and labor involved in implementing the capability. It is broken into three sections. The first is a summary of the individual CI (CSCI and HWCI) labor assessments. The second is a summary of hardware costs. The third is a summary of procurement activities needed.

1.6.1 Labor Assessments

The total Labor Costs required to provide this capability are summarized in the following table;

No.	CSCI/HWCI Name	Atlas LM	Changes covered in
1	Data Support Tools CSCI - Robust CAP Web Interface CSC	12.0 LM	
2	Data Support Tools CSCI - Advanced Data Analysis Tool CSC	12.0 LM	
3	Data Support Tools CSCI - Retrieved Data Presentation	24.0 LM	
4	TCID Build & Control	0	Test Build, Load & Activation Thread
5	Data Bank	0	Test Build, Load & Activation Thread
6	Data Recording & Archival	0	Log Record & Retrieval Thread
7	Data Retrieval	0	Log Record & Retrieval Thread
	TOTAL	48.0 LM	

1.6.2 Software Costs

The total Software Costs required to provide this capability are summarized in the following table:

Item number	Name	Unit Cost	Qty.	Total	Assumptions
1	Symantec Visual Cafe	$100	13	$1,300	Upgrade
2					
3					
4					
5					
6					
7					
8					
9					
10					
		Total:		**$1,300**	

1.6.3 Data Support Tools Thread Procurement

This assumes that an upgrade becomes necessary.

A summary of the procurement for Data Support Tools schedule is shown below:

Procurement Activity	Completion Date
Symantec Visual Café Upgrade PR	04/30/98
Receive Symantec Visual Cafe	07/09/97

1.7 Data Support Tools Thread Schedule & Dependencies

1.7.1 Schedule

Atlas Schedule for Data Support Tools:

Task Name	Start	Finish
Atlas Assessment Kickoff (No formal kickoff held)	1/20/98	2/6/98
Concept Panel Internal Review	None	None
Concept Panel	1/20/98	2/6/98
Atlas Development		
Requirement Panel Internal Review	None	None
Requirement Panel	3/23/98	4/10/98 Note: Dev
Design Panel Internal Review	None	None
Design Panel	4/10/98	5/1/98
CSCI Unit Testing	7/13/98	8/3/98
CSCI Formal Integration Test	8/10/98	8/21/98
Support System Integration Test	None	None
Atlas Development Complete	3/23/98	9/30/98

1.7.2 Dependencies

No.	Dependency Area	Dependency	Need Date
1	Recording/Retrieval Services	Without recorded data we cannot function.	5/1/98
2	TCID Information	Without TCID information we cannot function.	5/1/98
3			
4			

1.8 Data Support Tools Thread Simulation Requirements

Not Applicable.

1.9 Data Support Tools Thread Integration and System Test

The system test will take place as part of the BASIS system test. This will probably not be during the Atlas time frame.

1.10 Data Support Tools Thread Training Requirements

1.10.1 Training Needed

We have five new developers that require JAVA training.

1.10.2 Training to be provided

We are planning to develop a 1 hour course in using Data Support Tools.

1.11 Data Support Tools Thread Facilities Requirements

None.

1.12 Travel Requirements

None

1.13 Data Support Tools Thread Action Items/Resolution

None.

2. CSCI Assessments

2.1 CSCI Data Support Tools Assessment

CSC Robust CAP Web Interface Work Required

CAP113 which was originally scheduled for Thor, has been moved to Atlas due to some CAP porting from CDS to SDC schedule changes. Atlas will also see many enhancements to the CAP GUIs such as a deeper implementation of options provided by the CAPS, and the development of servlet software which should allow network administrators to close some holes in the firewall.

CSC Advanced Data Analysis Tool Work Required

ADAT will increase its number of presentation options in Atlas. It will also provide access to a list of data that is currently online as well as providing the user with a capability to save data to their workstation.

CSC Retrieved Data Presentation Work Required

In Atlas Retrieved Data Presentation will create a new retrieval which essentially combines the CCMS Operator Communications Retrieval with the Console Activity Trace retrieval. There will also be many data presentation enhancements added as well as providing the user with a capability to save data to their workstation.

CSCI Assessment

CSC Name	CSC Labor (LM)	% of CSC
RCWI	12 LM	100
ADAT	12 LM	100
RDP	24 LM	100

Basis of estimate

RCWI will require two developers for six months in order to fulfill its Atlas requirements.
ADAT will require two developers for six months in order to fulfill its Atlas requirements.
RDP will require four developers for six months in order to fulfill its Atlas requirments.

Documentation

Document Type RDWI	New/Update	Number of Pages
Requirements and Design Documentation	Update	15 pages
Users Guide	Update	10 pages
API Interface Document	None	
Interface Design Document	None	
Test Procedure	Update	60 pages
Document Type ADAT	New/Update	Number of Pages
Requirements and Design Documentation	Update	15 pages
Users Guide	Update	10 pages
API Interface Document	None	
Interface Design Document	None	
Test Procedure	Update	60 pages
Document Type RDP	New/Update	Number of Pages
Requirements and Design Documentation	Update	15 pages
Users Guide	Update	10 pages
API Interface Document	None	
Interface Design Document	None	
Test Procedure	Update	60 pages

Assumptions

- Data Support Tools will not execute from a CLCS Command Workstation for Atlas.

Open Issues

ERP #11 - SDC Data Retrieval to CCWS
ERP #12 - RTPS Retrieval Applications
ERP #75 - Ghostview RCWI for User Access from APPSVR

3. HWCI Assessments

None

4. COTS Products Dependencies

4.1 SW Products Dependency List

Product Name	Quantity Needed	Need Date
Symantec Visual Cafe	13 Upgrades	4/30/98

Product Name	Quantity Needed	Need Date

4.2 HW Products Dependency List

No purchases are necessary. SDC will be utilized.